

PATENT
SERIAL NO.: 08/533,895
Atty. Doc. No.: 2026-4205

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS : Suzanne L. Topalian, Steven A. Rosenberg and
Paul F. Robbins

SERIAL NO. : 08/533,895 GROUP ART UNIT : To be Assigned

FILED : September 26, 1995 EXAMINER : To be Assigned

FOR : **MHC CLASS II RESTRICTED MELANOMA ANTIGENS AND
THEIR USE IN THERAPEUTIC METHODS**

STATEMENT
Under 37 C.F.R. §1.821(f) or §1.825(b)

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Sir:

I hereby certify that:

- ☒ [X] The paper Sequence Listing and computer readable Sequence Listing submitted herewith are identical (37 C.F.R. §1.821 (f)).
- ☐ [] The substitute paper Sequence Listing and substitute computer readable Sequence Listing submitted herewith are identical. No new matter is included. (37 C.F.R. §1.825 (b)).

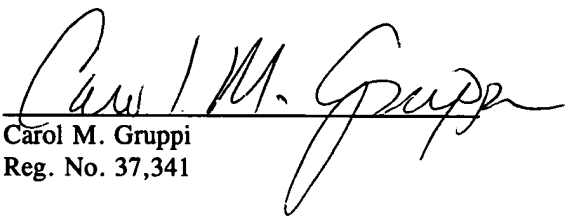
Respectfully submitted,

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Dated: December 8, 1995

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SEQUENCE LISTING

(1) GENERAL INFORMATION:

- (i) APPLICANTS: TOPALIAN, SUZANNE L.; ROSENBERG, STEVEN A.; ROBBINS, PAUL F.
- (ii) TITLE OF INVENTION: MHC-CLASS II RESTRICTED MELANOMA ANTIGENS AND THEIR USE IN DIAGNOSTIC AND THERAPEUTIC METHODS
- (iii) NUMBER OF SEQUENCES: 38
- (iv) CORRESPONDENCE ADDRESS:
 - (A) ADDRESSEE: MORGAN & FINNEGAN, L.L.P.
 - (B) STREET: 345 PARK AVENUE
 - (C) CITY: NEW YORK
 - (D) STATE: NEW YORK
 - (E) COUNTRY: USA
 - (F) ZIP: 10154
- (v) COMPUTER READABLE FORM:
 - (A) MEDIUM TYPE: FLOPPY DISK
 - (B) COMPUTER: IBM PC COMPATIBLE
 - (C) OPERATING SYSTEM: PC-DOS/MS-DOS
 - (D) SOFTWARE: ASCII
- (vi) CURRENT APPLICATION DATA:
 - (A) APPLICATION NUMBER: 08/533,895
 - (B) FILING DATE: 26-SEPT-1995
 - (C) CLASSIFICATION:
- (viii) ATTORNEY/AGENT INFORMATION:
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(2) INFORMATION FOR SEQ ID NO:1:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15
 - (B) TYPE: AMINO ACID
 - (C) STRANDEDNESS: UNKNOWN
 - (D) TOPOLOGY: UNKNOWN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

Gln Asn Ile Leu Leu Ser Asn Ala Pro Leu Gly Pro
1 5 10

Gln Phe Pro
15

(2) INFORMATION FOR SEQ ID NO:2:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 14
- (B) TYPE: AMINO ACID
- (C) STRANDEDNESS: UNKNOWN
- (D) TOPOLOGY: UNKNOWN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

Asn Ile Leu Leu Ser Asn Ala Pro Leu Gly Pro Gln
1 5 10

Phe Pro

(2) INFORMATION FOR SEQ ID NO:3:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15
- (B) TYPE: AMINO ACID
- (C) STRANDEDNESS: UNKNOWN
- (D) TOPOLOGY: UNKNOWN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

Gln Asn Ile Leu Leu Ser Asn Ala Pro Val Gly Pro
1 5 10

Gln Phe Pro
15

(2) INFORMATION FOR SEQ ID NO:4:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15
- (B) TYPE: AMINO ACID
- (C) STRANDEDNESS: UNKNOWN

(D) TOPOLOGY: UNKNOWN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

Gln Asn Ile Leu Leu Ser Asn Val Pro Val Gly Pro
1 5 10

Gln Phe Pro
15

(2) INFORMATION FOR SEQ ID NO:5:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15
(B) TYPE: AMINO ACID
(C) STRANDEDNESS: UNKNOWN
(D) TOPOLOGY: UNKNOWN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

Gln Asn Ile Leu Leu Ser Asn Val Pro Leu Gly Pro
1 5 10

Gln Phe Pro
15

(2) INFORMATION FOR SEQ ID NO:6:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15
(B) TYPE: AMINO ACID
(C) STRANDEDNESS: UNKNOWN
(D) TOPOLOGY: UNKNOWN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

Asp Tyr Ser Tyr Leu Gln Asp Ser Asp Pro Asp Ser
1 5 10

Phe Gln Asp
15

(2) INFORMATION FOR SEQ ID NO:7:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15
(B) TYPE: AMINO ACID
(C) STRANDEDNESS: UNKNOWN
(D) TOPOLOGY: UNKNOWN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

Asp Tyr Ser Tyr Leu Gln Asp Ser Asp Pro Asp Ser
1 5 10
Ser Gln Asp
15

(2) INFORMATION FOR SEQ ID NO:8:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15
(B) TYPE: AMINO ACID
(C) STRANDEDNESS: UNKNOWN
(D) TOPOLOGY: UNKNOWN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

Asp Gln Ser Tyr Leu Gln Asp Ser Asp Pro Asp Ser
1 5 10
Phe Gln Asp
15

(2) INFORMATION FOR SEQ ID NO:9:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15
(B) TYPE: AMINO ACID
(C) STRANDEDNESS: UNKNOWN
(D) TOPOLOGY: UNKNOWN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:

Asp Phe Ser Tyr Leu Gln Asp Ser Asp Pro Asp Ser
1 5 10

Phe Gln Asp
15

(2) INFORMATION FOR SEQ ID NO:10:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15
(B) TYPE: AMINO ACID
(C) STRANDEDNESS: UNKNOWN
(D) TOPOLOGY: UNKNOWN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:

Asp Tyr Ser Phe Leu Gln Asp Ser Asp Pro Asp Ser
1 5 10

Phe Gln Asp
15

(2) INFORMATION FOR SEQ ID NO:11:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15
(B) TYPE: AMINO ACID
(C) STRANDEDNESS: UNKNOWN
(D) TOPOLOGY: UNKNOWN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:

Asp Tyr Ser Tyr Leu Gln Asp Ser Val Pro Asp Ser
1 5 10

Phe Gln Asp
15

(2) INFORMATION FOR SEQ ID NO:12:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 13
(B) TYPE: AMINO ACID
(C) STRANDEDNESS: UNKNOWN
(D) TOPOLOGY: UNKNOWN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:

Ser Tyr Leu Gln Asp Ser Val Pro Asp Ser Phe Gln
1 5 10

Asp

(2) INFORMATION FOR SEQ ID NO:13:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 14
(B) TYPE: AMINO ACID
(C) STRANDEDNESS: UNKNOWN
(D) TOPOLOGY: UNKNOWN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:

Tyr Ser Tyr Leu Gln Asp Ser Asp Pro Asp Ser Phe
1 5 10

Gln Asp

(2) INFORMATION FOR SEQ ID NO:14:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 13
(B) TYPE: AMINO ACID
(C) STRANDEDNESS: UNKNOWN
(D) TOPOLOGY: UNKNOWN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:

Ser Tyr Leu Gln Asp Ser Asp Pro Asp Ser Phe Gln
1 5 10

Asp

(2) INFORMATION FOR SEQ ID NO:15:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 9
- (B) TYPE: AMINO ACID
- (C) STRANDEDNESS: UNKNOWN
- (D) TOPOLOGY: UNKNOWN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:

Xaa Leu Leu Xaa Asn Xaa Xaa Leu Xaa
1 5

(2) INFORMATION FOR SEQ ID NO:16:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 9
 - (B) TYPE: AMINO ACID
 - (C) STRANDEDNESS: UNKNOWN
 - (D) TOPOLOGY: UNKNOWN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:

Xaa Leu Gln Xaa Ser Xaa Xaa Asp Xaa
1 5

(2) INFORMATION FOR SEQ ID NO:17:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15
 - (B) TYPE: AMINO ACID
 - (C) STRANDEDNESS: UNKNOWN
 - (D) TOPOLOGY: UNKNOWN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:

Gln Asn Gln Leu Leu Ser Asn Ala Pro Leu Gly Pro
1 5 10

Gln Phe Pro
15

(2) INFORMATION FOR SEQ ID NO:18:

- (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15
- (B) TYPE: AMINO ACID
- (C) STRANDEDNESS: UNKNOWN
- (D) TOPOLOGY: UNKNOWN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:

Gln Asn Phe Leu Leu Ser Asn Ala Pro Leu Gly Pro
1 5 10
Gln Phe Pro
15

(2) INFORMATION FOR SEQ ID NO:19:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15
 - (B) TYPE: AMINO ACID
 - (C) STRANDEDNESS: UNKNOWN
 - (D) TOPOLOGY: UNKNOWN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:

Gln Asn Val Leu Leu Ser Asn Ala Pro Leu Gly Pro
1 5 10
Gln Phe Pro
15

(2) INFORMATION FOR SEQ ID NO:20:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15
 - (B) TYPE: AMINO ACID
 - (C) STRANDEDNESS: UNKNOWN
 - (D) TOPOLOGY: UNKNOWN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:20:

Gln Asn Ile Gln Leu Ser Asn Ala Pro Leu Gly Pro
1 5 10

Gln Phe Pro
15

(2) INFORMATION FOR SEQ ID NO:21:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15
(B) TYPE: AMINO ACID
(C) STRANDEDNESS: UNKNOWN
(D) TOPOLOGY: UNKNOWN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:21:

Gln Asn Ile Phe Leu Ser Asn Ala Pro Leu Gly Pro
1 5 10

Gln Phe Pro
15

(2) INFORMATION FOR SEQ ID NO:22:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15
(B) TYPE: AMINO ACID
(C) STRANDEDNESS: UNKNOWN
(D) TOPOLOGY: UNKNOWN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:22:

Gln Asn Ile Val Leu Ser Asn Ala Pro Leu Gly Pro
1 5 10

Gln Phe Pro
15

(2) INFORMATION FOR SEQ ID NO:23:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15
(B) TYPE: AMINO ACID
(C) STRANDEDNESS: UNKNOWN
(D) TOPOLOGY: UNKNOWN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:23:

Gln Asn Ile Leu Gln Ser Asn Ala Pro Leu Gly Pro
1 5 10

Gln Phe Pro
15

(2) INFORMATION FOR SEQ ID NO:24:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15
(B) TYPE: AMINO ACID
(C) STRANDEDNESS: UNKNOWN
(D) TOPOLOGY: UNKNOWN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:24:

Gln Asn Ile Leu Phe Ser Asn Ala Pro Leu Gly Pro
1 5 10

Gln Phe Pro
15

(2) INFORMATION FOR SEQ ID NO:25:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15
(B) TYPE: AMINO ACID
(C) STRANDEDNESS: UNKNOWN
(D) TOPOLOGY: UNKNOWN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:25:

Gln Asn Ile Leu Val Ser Asn Ala Pro Leu Gly Pro
1 5 10

Gln Phe Pro
15

(2) INFORMATION FOR SEQ ID NO:26:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15
(B) TYPE: AMINO ACID
(C) STRANDEDNESS: UNKNOWN
(D) TOPOLOGY: UNKNOWN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:26:

Gln Asn Ile Leu Leu Ser Asn Gln Pro Leu Gly Pro
1 5 10
Gln Phe Pro
15

- (2) INFORMATION FOR SEQ ID NO:27:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15
(B) TYPE: AMINO ACID
(C) STRANDEDNESS: UNKNOWN
(D) TOPOLOGY: UNKNOWN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:27:

Gln Asn Ile Leu Leu Ser Asn Ala Gln Leu Gly Pro
1 5 10
Gln Phe Pro
15

- (2) INFORMATION FOR SEQ ID NO:28:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15
(B) TYPE: AMINO ACID
(C) STRANDEDNESS: UNKNOWN
(D) TOPOLOGY: UNKNOWN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:28:

Gln Asn Ile Leu Leu Ser Asn Ala Val Leu Gly Pro
1 5 10

Gln Phe Pro
15

(2) INFORMATION FOR SEQ ID NO:29:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15
(B) TYPE: AMINO ACID
(C) STRANDEDNESS: UNKNOWN
(D) TOPOLOGY: UNKNOWN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:29:

Gln Asn Ile Leu Leu Ser Asn Ala Pro Gln Gly Pro
1 5 10

Gln Phe Pro
15

(2) INFORMATION FOR SEQ ID NO:30:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 13
(B) TYPE: AMINO ACID
(C) STRANDEDNESS: UNKNOWN
(D) TOPOLOGY: UNKNOWN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:30:

Ile Leu Leu Ser Asn Ala Pro Leu Gly Pro Gln Phe
1 5 10

Pro

(2) INFORMATION FOR SEQ ID NO:31:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 11
(B) TYPE: AMINO ACID
(C) STRANDEDNESS: UNKNOWN
(D) TOPOLOGY: UNKNOWN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:31:

Leu Leu Ser Asn Ala Pro Leu Gly Pro Gln Phe
1 5 10

(2) INFORMATION FOR SEQ ID NO:32:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 10
(B) TYPE: AMINO ACID
(C) STRANDEDNESS: UNKNOWN
(D) TOPOLOGY: UNKNOWN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:32:

Leu Ser Asn Ala Pro Leu Gly Pro Gln Phe
1 5 10

(2) INFORMATION FOR SEQ ID NO:33:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 9
(B) TYPE: AMINO ACID
(C) STRANDEDNESS: UNKNOWN
(D) TOPOLOGY: UNKNOWN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:33:

Ser Asn Ala Pro Leu Gly Pro Gln Phe
1 5

(2) INFORMATION FOR SEQ ID NO:34:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15
(B) TYPE: AMINO ACID
(C) STRANDEDNESS: UNKNOWN
(D) TOPOLOGY: UNKNOWN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:34:

Asp Tyr Ser Gln Leu Gln Asp Ser Asp Pro Asp Ser
1 5 10
Phe Gln Asp
15

(2) INFORMATION FOR SEQ ID NO:35:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15
(B) TYPE: AMINO ACID
(C) STRANDEDNESS: UNKNOWN
(D) TOPOLOGY: UNKNOWN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:35:

Asp Tyr Ser Tyr Gln Gln Asp Ser Asp Pro Asp Ser
1 5 10
Phe Gln Asp
15

(2) INFORMATION FOR SEQ ID NO:36:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15
(B) TYPE: AMINO ACID
(C) STRANDEDNESS: UNKNOWN
(D) TOPOLOGY: UNKNOWN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:36:

Asp Tyr Ser Tyr Phe Gln Asp Ser Asp Pro Asp Ser
1 5 10
Phe Gln Asp
15

(2) INFORMATION FOR SEQ ID NO:37:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 12
(B) TYPE: AMINO ACID

(C) STRANDEDNESS: UNKNOWN
(D) TOPOLOGY: UNKNOWN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:37:

Tyr	Leu	Gln	Asp	Ser	Asp	Pro	Asp	Ser	Phe	Gln	Asp
1				5					10		

(2) INFORMATION FOR SEQ ID NO:38:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 11
(B) TYPE: AMINO ACID
(C) STRANDEDNESS: UNKNOWN
(D) TOPOLOGY: UNKNOWN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:38:

Leu	Gln	Asp	Ser	Asp	Pro	Asp	Ser	Phe	Gln	Asp
1				5					10	